

### Abstract of the Disclosure

A DNA comprising a DNA having a nucleotide sequence encoding the amino acid sequence of human-originated prostacyclin synthase (PGIS) substantially depicted in Sequence No. 12, a vector comprising said DNA, a host cell transformed with said vector and a method for preparing human-originated PGIS comprising culturing said host cell in a medium. A polypeptide having the amino acid sequence of human-originated PGIS substantially depicted in Sequence No. 12 and an antibody having a reactivity with said human-originated PGIS. A pharmaceutical composition comprising said DNA or a vector comprising said DNA. A method for promoting the production of PGI<sub>2</sub> and a method for treating the diseases induced by a low production of PGI<sub>2</sub>, comprising introducing said DNA or a vector comprising said DNA into human or other animals.

The present invention clarifies the primary structure of human-originated PGIS and the nucleotide sequence encoding same. The PGIS and its DNA are useful as reagents for the development of therapeutic agents for the cardiovascular diseases induced by the production imbalance between PGI<sub>2</sub> and TXA<sub>2</sub>, and as diagnostics for determining the *in vivo* tissue expression level and distribution of PGIS or mRNA thereof. Moreover, they can be used as therapeutic agents for cardiovascular diseases, which introduce PGIS and the like into human or other animals in a lesion-specific manner. The production method of the present invention is useful for the easy and efficient mass production of the human-originated PGIS. The antibody of the present invention is useful for the purification of the human-originated PGIS and immunohistochemical analysis of the cause of a disease.